Thermally Efficient Emitter Technology for Advanced Scene/Simulation Capability in Hardware in the Loop Testing

NOTE: The Solicitations and topics listed on this site are copies from the various SBIR agency solicitations and are not necessarily the latest and most up-to-date. For this reason, you should use the agency link listed below which will take you directly to the appropriate agency server where you can read the official version of this solicitation and download the appropriate forms and rules.

The official link for this solicitation is:
http://www.acq.osd.mil/osbp/sbir/solicitations/sbir20152/index.shtml

Agency:
Department of Defense

Release Date:
April 24, 2015
Branch:
n/a

Open Date:
April 24, 2015
Program / Phase / Year:
SBIR / Phase I / 2015

Application Due Date:
June 24, 2015

Solicitation:
DoD 2015.2 SBIR Solicitation

Close Date:
June 24, 2015
Topic Number:
MDA15-014

Description:
Ground testing of exo-atmospheric interceptor IR sensors play an essential role in the development of advanced algorithm concepts, mitigating flight test risk/cost and evaluating tactical performance. Numerous next-generation IR emitter technologies such as IR light emitting diodes (LEDs), photonic crystals and resistors are in development. These devices address the need for greater projected temperature ranges, faster frame update rates and very large array formats but present challenges in managing parasitic/waste heat. This solicitation seeks new and innovative emissive technologies to enable presentation of dynamic high-temperature scenes at higher frame rates for high fidelity IR projection in ground test environments to meet the test requirements for larger formats and more stressing tactical environments where thermal management is not a dominating factor. The end result will provide a capability to evaluate exo-atmospheric IR sensors and target tracking/discrimination algorithms in ground test facilities with increasing confidence of success prior to flight test. Technical goals of this topic include: • Pixel scene resolution of 4K x 4K • Frame rates > 400Hz • Flickerless display • Compatible with cryogenic chamber operation (~100K) • MWIR/LWIR scene temperatures of 2000K • Native non-uniformity